

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
New Part 4 of the Commission's Rules)	ET Docket No. 04-35
Concerning Disruptions to Communications)	

COMMENTS OF NEXTEL COMMUNICATIONS, INC.

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SUMMARY

Nextel Communications, Inc. (“Nextel”), hereby submits these comments in response to the Federal Communications Commission’s (“Commission’s”) Notice of Proposed Rulemaking (“*Notice*”) in the above-captioned docket. The *Notice* seeks comment on extending outage-reporting requirements to non-wireline communications providers.

As a leading provider of commercial mobile radio services (“CMRS”) with a particular commitment to service quality and reliability, Nextel is keenly interested in this proceeding and opposes mandatory outage reporting for CMRS providers. The current voluntary outage reporting regime functions well, and serves the Commission’s goals of promoting the security and reliability of the Nation’s communications systems. As discussed herein, the public interest is well-served by retaining the voluntary reporting regime.

If the Commission nonetheless mandates CMRS outage reporting, Nextel proposes some changes to the rules proposed in the *Notice* to better serve the public interest. Specifically, Nextel notes that requiring notification of an outage within 120 minutes of learning of it diverts precious resources from repairing the outage and getting service up and running again. Nextel also asks the Commission to define “incapable of processing communications,” a term currently undefined in the *Notice*, so that the CMRS industry would know what is required of it and would only have to report such “incapabilities” when they meet the Commission’s overall 900,000 user-minute threshold. Nextel also suggests that reporting on outages affecting 911 systems be limited to those network elements actually under the control of CMRS providers. Nextel

requests that the Commission address what appears to be a typographical error in Appendix A's proposed rules to reflect the intent stated in the body of the *Notice* that outages must only be reported when a mobile switching center outage affects 900,000 user minutes. Nextel also notes that the concept of a "concentration ratio" does not apply to the CMRS industry, and suggests an alternative trigger for reporting on outages.

As a final matter, Nextel, as a CMRS provider reliant on facilities provided by incumbent local exchange carriers ("ILECs"), is vulnerable to ILEC outages of special access circuits. Such ILEC outages are all too frequent and are not addressed in a timely manner. Moreover, they are not captured by the threshold outage reporting triggers proposed in the *Notice*. To improve wireless service across-the-board, Nextel proposes that the Commission seek more granular data from ILECs, including specific information on T-1 outages, so that carriers and the Commission can address the service quality problems caused by persistent T-1 outages.

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Nextel Communications, Inc. ("Nextel"), hereby submits these comments in response to the Federal Communications Commission's ("Commission's") Notice of Proposed Rulemaking ("*Notice*") in the above-captioned docket. The *Notice*, among other things, seeks comment on extending network disruption reporting requirements to non-wireline communications providers.¹

I. INTRODUCTION

Nextel is a nationwide provider of commercial mobile radio services ("CMRS"), including cellular telephone service, Direct Connect[®] (Nextel's walkie-talkie feature) and data services. With its affiliate, Nextel Partners, Inc., Nextel covers 294 of the top 300 metropolitan areas in the United States, and serves approximately 13 million subscribers. Nextel's customer base largely comprises business users, government agencies, and high-value individuals, all who demand a high quality of service. Nextel is proud that it can deliver the quality its customers demand.² Nextel believes that there is a clear correlation

¹ See New Part 4 of the Commission's Rules Concerning Disruptions to Communications, *Notice of Proposed Rulemaking*, ET Docket No. 04-35, FCC 04-30, at ¶ 1 (rel. Feb. 23, 2004).

² Nextel ranked at the top of the CMRS providers evaluated in an independent survey in terms of network quality, coming within one performance point of the lead. In the same study, Nextel performed the highest
(... continued)

between Nextel's service quality and reliability and its longstanding record of having one of the lowest customer "churn" rates in the CMRS industry. Further demonstrating its commitment to service quality and network reliability, on December 18, 2003, Nextel's CEO Timothy M. Donahue accepted the Chairmanship of the seventh Network Reliability and Interoperability Council ("NRIC").³ As a result of Nextel's demonstrated commitment to network service quality and reliability, Nextel is keenly interested in this proceeding.

As detailed below, voluntary reporting of network outages can effectively ensure high quality service, and the Commission should continue to rely on carriers' voluntary outage reports rather than impose new mandates on the industry. Should the Commission nonetheless forge ahead with mandatory outage reporting for the competitive CMRS industry, Nextel proposes some changes to better serve the public interest. Finally, Nextel suggests that incumbent local exchange carriers ("ILECs") report certain outages in special access services, including at the T-1 level, as these outages currently go unreported, yet have a significant, cumulative effect on CMRS network reliability.

II. THE CURRENT VOLUNTARY OUTAGE REPORTING PROCESS SERVES THE COMMISSION'S GOALS OF ANALYZING, IDENTIFYING, AND FIXING VULNERABILITIES IN THE NETWORK.

Nextel understands and readily accepts its responsibility to protect the homeland security of the Nation. This responsibility includes reporting outages that might

in network quality among high-volume users. *See Nextel Ranked Highest in Customer Service Performance by J.D. Power and Associated*, BUSINESS WIRE, Aug. 28, 2003.

³ Nextel Communications President & CEO Timothy Donahue to Chair New Network Reliability and Interoperability Council, *FCC News Release*, Dec. 18, 2003.

significantly affect the ability of CMRS users to complete calls. Thus Nextel agrees with the fundamental goals of the *Notice*.

Contrary to the assertions in the *Notice*, Nextel is among several CMRS providers that report network outages voluntarily. In 2003, Nextel reported on outages using the definitions and criteria of the NRIC's voluntary outage reporting trial, and in 2004, Nextel has continued to report voluntarily pursuant to criteria similar to the Commission's proposed mandatory reporting criteria. Once the scrubbed and aggregated data is provided to the Commission, it can be analyzed for trends that may uncover vulnerabilities in the networks. Should any vulnerabilities be uncovered, the carriers would remediate them, as the Commission recognized in its *Notice*,⁴ through best practices.

The Commission's specific concern with respect to voluntary outage reporting, however, is ensuring that major outages are reported.⁵ Due to the interdependence of today's communications networks, the competitiveness of the wireless industry, and the now well-established voluntary reporting process, it is highly unlikely that a major outage would ever go unreported or last longer than absolutely necessary. Carriers, particularly wireless carriers competing for wireless consumers, have every incentive to react quickly, fix problems, and take the precautions necessary to prevent problems from recurring. Nextel, like other CMRS carriers, depends upon ILECs for over 90% of its dedicated transport and channel termination services (i.e., special access services), which connect its approximately 17,000 radio towers to its mobile switching centers. In light of CMRS

⁴ See *Notice* at ¶ 6.

⁵ See *Notice* at ¶ 12.

providers' dependence on ILECs for special access services, a major outage arising from such ILEC network dependency would already be required to be reported by the ILEC. Any similar outage arising solely from the CMRS providers' network would continue to be reported voluntarily. Thus, the mechanisms currently in place already achieve the Commission's stated goal of ensuring that major outages are reported.

Voluntary reporting also better serves the important goal of maintaining the security of CMRS providers' networks. As the Commission recognizes, CMRS networks are a critical component of the Nation's communications infrastructure, and their reliability is critical especially in times of emergencies.⁶ Specific information detailing the vulnerabilities of CMRS providers' networks could be exploited by those who seek to undermine the country's homeland security. Because voluntary outage reports are not directly submitted to the Commission, the likelihood of their being subject to a Freedom of Information Act ("FOIA") request is minimized.

The current voluntary outage-reporting process is consistent with the recently enacted Critical Infrastructure Information Act ("CIIA").⁷ The CIIA recognizes the importance of the Nation's critical infrastructure, relying on the definition of critical infrastructure contained in the USA PATRIOT Act: "systems and assets, whether physical or virtual, so vital to the United States that the incapacity or destruction of such systems and assets would have a debilitating impact on security, national economic

⁶ "It is, of course, essential that all of these forms of wireless communications perform reliably in general use but it is even more essential that they do so during times of local or national emergencies or terrorist attacks." *Notice* at ¶ 14.

⁷ P.L. 107-296, 116 Stat. 2135, §§ 211-215 (to be codified at 6 U.S.C. §§ 131-134) (2002).

security, national public health or safety, or any combination of these matters.”⁸ To encourage the *voluntary* submission of information to the Department of Homeland Security, the CIIA clearly sets forth that voluntary submissions of information pertaining to critical infrastructure are exempt from discovery under FOIA.⁹ The Commission should adopt the model of information submission contained in the CIIA, and thereby ensure that this information is not available to the public.

III. IF MANDATORY OUTAGE REPORTING IS ADOPTED, SEVERAL OF THE PROPOSED RULES SHOULD BE REVISED TO BETTER SERVE THE PUBLIC INTEREST.

A. The proposed 120-minute timeframe to provide an initial outage misdirects carrier resources to reporting on a problem, rather than fixing the problem.

The Commission should recognize that the personnel needed to repair a known network outage are often the very same personnel needed to report the nature of the outage to the Commission. Compliance with a two-hour timeframe would require Nextel to shift its resources from actually repairing the problem, to reporting about it. The report, moreover, would be required at a time when the carrier is likely to know very little about the outage’s cause(s). If the Commission determines that rules are necessary for outage reporting, then it must provide an adequate timeframe that allows carriers to

⁸ “The term ‘critical infrastructure’ has the meaning given that term in section 1016(e) of Public Law 107-561 (42 U.S.C. 5195c(e)).” P.L. 107-296, 116 Stat. 2140, § 2(4).

⁹ ...[C]ritical infrastructure information that is *voluntarily submitted* to a covered Federal agency for use by that agency regarding the security of critical infrastructure and protected systems, analysis, warning, interdependency study, recovery, reconstitution, or other information purpose, when accompanied by an express statement . . .
(A) shall be exempt from disclosure under Section 552 of title 5, United States Code (commonly referred to as the Freedom of Information Act).

P.L. 107-296, 116 Stat. 2135, § 214(a)(1) (to be codified at 6 U.S.C. § 133(a)(1)).

initially deploy resources where they are most needed in the early stages of a network outage: namely, in isolating the cause(s) of the outage and fixing it.

Even if some type of report is deemed necessary immediately after a known outage, the Commission should adopt flexible guidelines for the contents of such a report. A general, or high-level description of the problem based on the limited information known at such an early stage of the outage should be considered sufficient for the initial report. The additional data the Commission seeks—*e.g.*, overall impact, root cause analysis—take time and resources to compile and present to the Commission. The proposed rules, however, make no allowance for the limited information available within 120 minutes of a known outage. Rather, proposed new Section 4.11 states that “[t]he Initial and Final reports *shall contain* the information [identified in Appendix B to the *Notice of Proposed Rulemaking*].”¹⁰ In other words, the Commission’s proposed rules require a carrier to report within 120 minutes *all* of the detailed information required in the final report. If the Commission insists on requiring an initial report so soon after the discovery of an outage, then Nextel recommends that such a report simply state that some problem has occurred, and identify, if possible, the extent of the outage, without engaging in an analysis of the root cause (or causes) of the outage. More detailed reports can be submitted when key personnel have repaired the problem and are then available to analyze the nature of the outage and compile a report.

B. The Commission should clarify the definition of “processing communications.”

The *Notice* establishes the threshold of an outage that triggers a report obligation (900,000 “user-minutes”) and describes the circumstances (the definition of an “outage”)

¹⁰ *Notice*, Appendix A, § 4.11 (emphasis added).

under which a CMRS provider must file an outage report.¹¹ However, after defining these triggers, the *Notice* contains a catch-all trigger that seemingly contradicts and supercedes the previous, more narrowly tailored triggers. Paragraph 39 of the *Notice*, rather than specifying a number of user-minutes or describing the circumstances which would require a report, states that “without regard to the number of user minutes” potentially affected by an outage, any mobile switching center (“MSC”) “incapable of processing communications” for 30 minutes must be reported.

As used in Paragraph 39, the term “incapable of processing communications” is vague on its face and undefined. If it is intended to be broader than the term “outage”—*i.e.*, outages are subsets of “incapabilities”—then the Commission has triggered a reporting obligation *each and every* time an MSC is “incapable of processing communications” for 30 minutes, regardless of the number of user minutes affected. This result could not have been the Commission’s intention because such a trigger would obviate the need for limiting reports to instances where 900,000 user minutes are affected. The Commission, therefore, should define the term “incapable of processing communications” and, as part of such definition, clarify that the 900,000 user-minute threshold applies equally to any outage caused by an “incapab[ility] of processing communications” or an “outage.”

C. E911 communications outage reporting should be limited to those problems within the wireless provider’s control.

Paragraph 40 of the *Notice* purports to limit CMRS providers’ reporting obligations to those outages that “prevent[] a MSC from receiving, or responding to, 911 calls.” The corresponding Footnote 86 describes examples of CMRS network failures

¹¹ See *Notice* at ¶ 38.

subject to reporting and appears to capture a broader set of network elements than a CMRS provider could be reasonably expected to be aware of. Therefore, Commission should clarify that CMRS providers need report only on the outages of 911 network elements that they are aware of and over which they exercise control. To mandate otherwise would require new systems be put in place to constantly monitor, or “ping,” the portions of the network beyond the CMRS provider’s control to determine whether those elements are functioning properly. No such practices currently exist to allow CMRS providers to constantly monitor the entire end-to-end E911 system. The CMRS provider will not have any information regarding a failure or degradation of the trunks connecting the MSC to other LECs serving PSAPs.¹² Rather, the carrier in control of those trunks will be much better suited to monitor them and report on failures. Accordingly, imposing such a requirement would be cost-prohibitive, technically impracticable and raise proprietary concerns and security issues for the third parties controlling such other network elements.

Similarly, the CMRS provder will not have information regarding a failure in LEC-supplied trunking from the CMRS provider to the LEC selective router, and on to the PSAP.¹³ Because these are LEC-supplied trunks, the LEC would be in the better position to learn of a failure in those trunks, and should be the sole party responsible for reporting such an outage.

¹² “. . . (v) from a failure or degradation in the trunk(s) that connect the mobile switching center to the other LECS that serve PSAPS” *Notice* at n.86.

¹³ “. . . (vi) from a failure in the trunking from the LEC that is supplied to the wireless provider to connect it to the PSAP.” *Notice* at n.86.

D. The proposed rules in Appendix A should be revised so they are substantively consistent with the proposed rules described in the text of the *Notice*.

Paragraph 38 of the *Notice* states that CMRS providers should be required to report MSC outages of at least 30 minutes' duration that affect at least 900,000 user minutes. The proposed rules, as drafted in Appendix A, however, would require an outage report for *any* MSC outage of at least 30 minutes' duration regardless of the user minutes affected. Specifically, Appendix A requires submission of reports for outages of at least 30 minutes duration “(1) of a Mobile Switching Center (MSC); (2) that potentially affects at least 900,000 user minutes . . . *or* (6) that potentially affects a 911 special facility.”¹⁴ The conjunction joining the enumerated least of outage-report triggering events is “or,” therefore, as written, *either* a 30-minute outage of an MSC, *or* an outage affecting 900,000 user minutes would trigger the need to file an outage report. As made clear in the text of the *Notice*, however, CMRS providers “would be required to report MSC outages of at least 30 minutes duration *that* potentially affect at least 900,000 user minutes.”¹⁵

This inconsistency is likely a typographical error that can be easily remedied simply by deleting the “; (2)” from proposed Rule 4.9(b). The pertinent section would now read, “All wireless service providers shall submit electronically an Initial Communications Outage Report to the Commission within 120 minutes of discovering that they have experienced . . . an outage of at least 30 minutes duration: (1) of a Mobile

¹⁴ *Notice*, Appendix A, Rule § 4.9(b) (emphasis added).

¹⁵ *Notice* at ¶ 38 (emphasis added).

Switching Center (MSC) that potentially affects at least 900,000 user minutes” This revision would more accurately reflect the plain meaning of paragraph 38 of the *Notice*.

E. The concept of a concentration ratio does not apply to CMRS MSCs.

The *Notice* proposes a “concentration ratio” of ten, and describes the concentration ratio as “the quotient of the number of users eligible for service from a particular MSC switch at any given time divided by the call capacity of the switch.”¹⁶ The concentration ratio is a wireline concept that does not translate to CMRS applications. In particular, the concentration ratio is typically used for Class 5 end offices with line side, PBX, Pair Gain, and other customer premises equipment-delivered services, and denotes *fixed* serving arrangements between two points in the wireline network.

In contrast, MSC traffic designs are based on traffic load between and among numerous points in the network, and directly correlate with peak busy, call duration, call attempts, calling traffic patterns, and other design characteristics. Rather than bootstrapping the wireline concept of a concentration ratio on MSCs, Nextel suggests using design capacity at peak busy times. Traffic design for MSCs more closely resembles the landline tandem (Class 4) switch model than it does the landline end office model.

For this reason the Commission should engage in further study before determining the trigger for reporting on MSC outages. Tying outage reports to an arbitrary concentration ratio of ten misses the mark when considering the design characteristics of MSCs.

¹⁶ *Notice* at n.82.

IV. THE PROPOSED RULES SHOULD REQUIRE ILECS TO REPORT ON THE RELIABILITY AND AVAILABILITY OF THEIR TRANSMISSION FACILITIES TERMINATING TO OTHER PROVIDERS' NETWORK EQUIPMENT, PARTICULARLY CMRS PROVIDERS' EQUIPMENT, INCLUDING AT THE T-1 LEVEL.

CMRS providers are particularly vulnerable to ILEC network outages at levels that the current *Notice* considers to be too minor to be reported. As discussed above, Nextel is critically dependent upon ILEC-provisioned special access services (*e.g.*, T-1, T-3, DS1 and DS3 lines) to haul telecommunications traffic to and from cell sites and MSCs.¹⁷ For example, when T-1 lines go down, as they do with some regularity,¹⁸ CMRS users are denied service, resulting in CMRS end users blaming their CMRS provider for poor service. Without any voluntary or involuntary reporting requirements for outages or performance metrics applicable to special access services, including at the T-1 level, ILECs have little incentive to provide better quality service or to repair circuit outages in a timely manner. Additionally, the lack of any type of reporting mechanism—mandatory or voluntary—means there is little data available to carriers and the Commission regarding the magnitude of the problem.

T-1 outages tend not to be grouped together unless they are part of a wider DS-3 outage, which is a relatively rare occurrence. The random nature of outages at the T-1 level may isolate a particular cell site, while other sites remain operational, thus making the impact in terms of total subscribers appear minor at any particular time and in any particular geographic location. However, the Commission ought to focus on the *total*

¹⁷ Because of the dispersed nature of CMRS networks, CMRS providers are highly dependent on special access services provided by the ILECs because competitive LEC providers, even when they exist in a given market, are unable to match the reach of the ILECs' networks.

¹⁸ For example, during just the three-month period from February through April of this year, Nextel experienced more than 3,000 LEC T-1 outages.

impact when numerous, relatively random, T-1 outages affect a large number of sites spread over a large geographic area. These outages cause holes in coverage, sometimes repeatedly, and due to the nature of mobile service, a lack of contiguous coverage affects the quality and reliability of the service as a whole.¹⁹ Thus, multiple T-1 outages have a significant effect on CMRS service quality. Although T-1 lines may be just a “last mile” facility from the perspective of the LEC, to the CMRS provider, they are an essential building block for providing quality service at the network level.

The Notice of Proposed Rulemaking in the Special Access Performance Metrics proceeding²⁰ has now been outstanding for almost three years despite strong support from corporate end users, competitive LEC and interexchange carriers, and CMRS providers, including the only nationwide, non-ILEC affiliated CMRS providers Nextel, T-Mobile, and AT&T Wireless, to require performance metric reporting by the ILECs. In its recently adopted Report and Order in WC Docket No. 03-228, the Commission stated “we commit to addressing special access performance metrics . . . expeditiously.”²¹ To fulfill that commitment, the Commission should ensure that ILECs report T-1 outages, given their substantial impact on CMRS providers’ service quality. Adopting such rules would serve the Communications Act’s fundamental tenet of “promoting safety of life

¹⁹ One particular type of T-1 outage, known as “bouncing T-1s” occurs when T-1s go up and down repeatedly over a short period of time. In such situations, the wireless user is continually denied service, but the cell site is only measurably unavailable for short, “bursty,” periods. However, the overall effect is to deny continuous service to the customer.

²⁰ Performance Measurements and Standards for Interstate Special Access Services, *Notice of Proposed Rulemaking*, CC Docket No. 01-321, 16 FCC Rcd 20896 (2001).

²¹ Section 272(b)(1)’s “Operate Independently” Requirement for Section 272 Affiliates, *Report and Order in WC Docket No. 03-228, Memorandum Opinion and Order in CC Docket Nos. 96-149, 98-141, 01-337, FCC 04-54*, at ¶ 24 (rel. March 17, 2004).

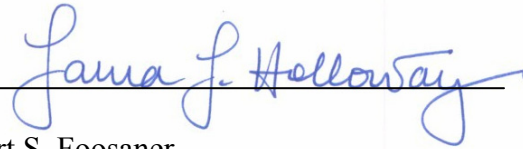
and property through the use of wire and radio communication” by improving CMRS service quality and network reliability.²²

V. CONCLUSION

In view of the foregoing, Nextel respectfully requests that the Commission take action consistent with the views expressed herein.

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²² Section 1 of the Communications Act of 1934, as amended, 47 U.S.C. § 151.